Training Agenda

TM5 Collaborative Robot – Intermediate / Advanced

HMKTrc-TM5-I/A

ISOQAR REGISTERED
UKAS MANAGEMENT SYSTEMS
0026

Certificate Number 5765
ISO 9001

HMK Automation Group Ltd – Training Agenda

Course Summary:

The two-day training course is intended as an intermediate/advanced level training course for the TM5 Collaborative Robot and associated TM Flow™ software system.

Included in the course is an overview of the core functionality of the TM5 unit and intermediate/advanced programming using the TM Flow™ software system. The training will focus on developing and implementing software programs, including manual teaching, pick and place, palletisation and vision-based programs, which may then be tailored to your specific applications. Time will then be allocated towards the end to discuss how the material covered relates to your specific area of interest.

Who it is intended for?

The course is aimed at system engineers and advanced technical level personnel, who may be operating the unit.

The course aims to equip the trainee with the necessary knowledge and tools to perform commissioning and programming of the TM5 Collaborative Robot.

Prerequisites:

Good PC skills are required.

A basic understanding/knowledge of robotics and software programming would be beneficial but is not essential. A basic understanding/knowledge of vision systems and image processing would also be advantageous but is not essential.

What to bring:

All required training materials are provided by HMK. Attendees should come prepared to make detailed notes.

Where is the course held?

Training courses are held at HMK Automation Group Ltd, which is located in Congleton, Cheshire. Please access the HMK website via the link below for a map and further details on the location of our offices.

How to Find Us

http://www.hmkdirect.com/contact/

Day 1 – Start time 9:00 – 9:30am

1. Introduction to HMK & Techman

2. System Overview
   - 2.1. TM5 Specification
   - 2.2. Robot Arm
   - 2.3. Control Box and Pendant
   - 2.4. Safety Features

3. Start Up
   - 3.1. Modes of Operation
   - 3.2. Safe Start

4. Basic Programming
   - 4.1. TM Flow™ Interface
     - 4.1.1. User Settings
     - 4.1.2. Extended Safety
     - 4.1.3. Project Creation

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   - 4.2. Core Functionality
     - 4.2.1. Coordinate Systems
     - 4.2.2. Base & Point Management
     - 4.2.3. Controller
     - 4.2.4. Variables
     - 4.2.5. Display / Voice Functions
     - 4.2.6. Conditional Statements

5. Application 1 – Point to Point Cycling

6. Application 2 – 2D / 3D Palletisation

Finish – Approx. 5:00pm

Day 2 – Start time 9:00 – 9:30am

1. Vision System
    - 1.1. Introduction
    - 1.2. Camera Kit – Parameters and Settings
    - 1.3. Workspace Calibration
    - 1.4. Vision Task Modules
        - 1.4.1. Task Initiation
        - 1.4.2. Image Enhancement
        - 1.4.3. Object Recognition
        - 1.4.4. Servoing
        - 1.4.5. AOI Identification
        - 1.4.6. Vision I/O
        - 1.4.7. Vision Flow and HMI
    - 1.5. Extended (Licensed) Functionality
        - 1.5.1. Optical Character Recognition
        - 1.5.2. Visual Measurement
        - 1.5.3. 3D Bin Picking
        - 1.5.4. Conveyor Tracking

2. Application 3 – Vision Based Pick and Place

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3. Application 4 – AOI Based Palletisation

4. **Test – Visual Servo Task**

5. Questions, Information and Support

Finish – Approx. 5:00pm